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Fiji Climate Summary January 2025

ISO 9001:2015 certified Climate Services

Issued: February 7 2025
Next Issue: March 7, 2025
Since : August 1980*
Volume 46 : Issue 1

1. IN BRIEF

Weather during January was greatly influenced by the presence of several low pressure systems, contributing to series of heavy rainfall events. At the beginning of the month, flash flooding events were observed in the Western, Northern and Central Divisions, followed by smaller surface flooding events, and again major flooding observed within the Western Division on the 31st.

Overall, out of the 26 rainfall monitoring stations that reported in, during the compilation of this bulletin, 8 stations recorded *above average*, 14 *average*, 3 *below average*, while 1 station with *well below average* rainfall (Table 2, Figures 1-5).

The highest monthly rainfall of 594.3mm was observed at Monasavu, followed by 520.0mm at Nadarivatu, 514.0mm at Nasinu, 508.4 mm at Rarawai Mill, 483.4mm at Koronivia, 482.6mm at Nausori Airport, Navua with 452.5mm, and Vunisea with 440.0mm. On temperatures, The month's highest day-time temperature of 35.8°C was observed at Ono-I-Lau on the 21st, followed by Yasawa-I-Rara and Navua both with 35.1°C on the 26th and 16th respectively.

Last month's lowest night-time temperature of 13.1°C was recorded at Nadarivatu on the 12th, followed by Monasavu on the 15th with 15.5°C,

Southeasterly winds were dominant at Nadi Airport and Savusavu Airfield, easterly winds were dominant at Matei Airfield, while northwesterly winds were dominant at Nausori Airport (Figure 7).

Warmer than normal sea surface temperature anomalies were observed across the Fiji Waters, during the month. (Figure 8).

Generally above normal sea level anomalies persisted across the Fiji Group during January (Figure 10).

2. WEATHER PATTERNS

During the month of January, several active troughs of low pressure associated with multiple tropical disturbances resulted in significant weather activity due to a series of rainfall events.

The month began with north to easterly winds as Tropical Disturbance TD02F developed to the west-northwest of Fiji, bringing a trough of low pressure over the region. TD02F weakened by the 3rd as the easterly winds established.

A new trough developed south of Fiji on the 5th, prompting another heavy rain alert for the southern and eastern parts of the country. Rain persisted until the 9th, with winds shifting from southeast to northwest.

TD04F passed over Fiji on the 9th, further influencing weather conditions, and at the same time creating a convergence zone over Rotuma, which brought heavy rain and thunderstorms to the island, persisting until the 13th. Dominant southeast winds settled in by the 10th.

Mid-month, shifting wind patterns were observed, with easterly winds on the 14th, northeasterly winds on the 15th, and northerly winds accompanying a trough over Fiji on the 17th. A weak trough persisted over the southern and eastern parts of the country between the 20th and 21st, accompanied by northeast winds.

Towards the end of the month, easterly to northeast winds prevailed from the 23rd to the 25th. A trough developed southwest of Fiji on the 25th, with another trough passing over the group on the 27th. A heavy rain warning was issued for the Fiji group from the 27th onward as an embedded low developed on the 29th and passed through the region, contributing to continued unsettled weather until the end of the month.

Five Tropical Disturbances developed in the region during January: TD02F, which developed in December, carried on into January, weakening within the first few days. This was followed by TD03F, numbered on January 5th. TD04F was numbered on the 9th and developed into TC Pita on the 10th. TD05F was numbered at the end of January and carried into the following month.

Rotuma experienced a series of troughs and wind shifts throughout January, contributing to variable weather, including heavy rainfall and thunderstorms.

3. RAINFALL

Rainfall levels across the country showed variation, fluctuating between *well below average* and *above average*. Majority of the stations experienced normal rainfall conditions with several stations in the Western and Northern divisions, Laucala Bay and Lakeba recording average monthly rainfall.

Slightly wetter than usual conditions were observed at Nacocolevu, Navua, Koronivia, Suva, Yasawa, Kadavu and Matuku, while stations such as Rotuma, Tavua and Yaqara reported below *average* rainfall. Overall, out of the 26 rainfall monitoring stations that reported in, in time for the compilation of this bulletin, 8 *above average*, 14 *average*, 3 *below average*, and 1 station with well *below average* rainfall (Table 2, Figures 1-5).

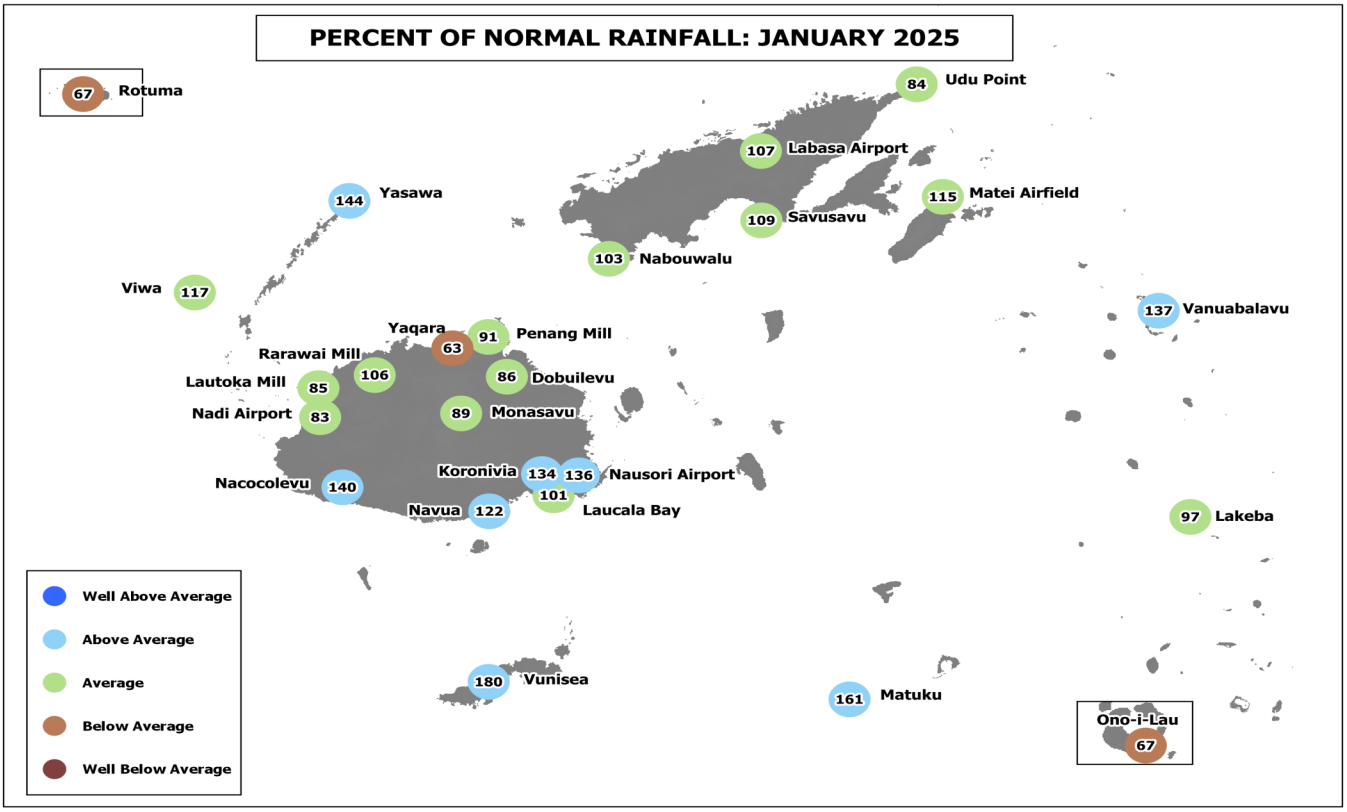
The highest monthly rainfall of 594.3mm was observed at Monasavu, followed by 520.0mm at Nadarivatu, 514.0mm at Nasinu, 508.4 mm at Rarawai Mill, 483.4mm at Koronivia, 482.6mm at Nausori Airport, Navua with 452.5mm and Vunisea with 440.0mm. On the other hand, Levuka recorded the month's lowest total monthly rainfall of 109.5mm, followed by Ono-I-Lau with 116.6mm, Momi with 182.5mm, and Yaqara with 205.0mm (Table 2).

The highest 24-hour rainfall of 195.0mm was recorded at Vunisea on the 5th, followed by Rarawai Mill (Ba) with 174.0mm on the 30th, Matei airfield with 146.0mm on the 28th, Labasa Airfield with 145.0mm on the 28th, Nadarivatu with 125.0mm on the 30th, Nausori Airport with 112.0mm on the 8th, Navua with 109.0mm on the 7th, Nabouwalu with 106.0mm on the 27th, and Vanuabalavu with 105.0mm on the 8th.

An active trough of low pressure developed south of Fiji on the 5th, bringing torrential heavy rain that caused major flash flooding of some low lying areas including roads, crossings, settlements and parts of Sigatoka and Ba Town, in the Western Division.

Monasavu recorded the highest number of rain days (rainfall≥0.1mm) with 29 days, followed by Nadarivatu and Nacocolevu both with 27 days, Rotuma with 26 days, Dobuilevu with 25 days, Labasa Airfield and Lautoka Mill both with 24 days, and Penang and Nasinu both with 23 days. Subsequently, Lakeba recorded the least number of rainfall days with 11 days, followed by Vanuabalavu with 12 days, Ono-I-Lau with 13 days, Sigatoka and Nabouwalu both with 16 days, and Levuka, Momi and Vunisea all with 17 days.

Rarawai recorded its new highest daily average of 170.0mm since records began in 2008 (Table 1).



Normal: *Long term average from 1991 to 2020*
Well Below Average: *Rainfall less than 40% of normal*
Below Average: *Rainfall between 40 to 79%*
Rain Day: *Rainfall ≥ 0.1mm*

Average: *Rainfall between 80 to 119%*
Above Average: *Rainfall between 120 to 199%*
Well Above Average: *Rainfall greater than or equal to 200% of normal*

4. AIR TEMPERATURES

A. Maximum Day-time Air Temperatures

Below normal to *above normal* day-time temperatures were observed across the country during the month. Out of the 22 climate stations that reported in time for the analysis of data, 5 recorded anomalies ≥+0.5°C, 15 within ±0.5°C and 2 stations with anomaly of ≤ -0.5°C.

On average, the warmest days were recorded at Viwa with 32.4°C, followed by Navua with 32.3°C, Yaqara and Korolovu both with 31.9°C, Labasa Airfield with 31.8°C and Penang Mill, Rotuma, Nadi Airport and Lautoka Mill all with 31.5°C. Subsequently, Nadarivatu recorded the coolest days on average with 25.7°C, followed by Monasavu with 26.3°C, Udu Point and Vunisea both with 30.3°C, Matuku with 30.4°C, Matei Airfield with 30.5°C and Nacocolevu with 30.6°C.

The month's highest day-time temperature of 35.8°C was observed at Ono-I-Lau on the 21st, followed by Yasawa-I-Rara and Navua both with 35.1°C on the 26th and 16th respectively, Korolevu with 34.7 on the 5th and Labasa Airfield with 34.4 on the 23rd.

The coolest daytime temperatures were observed at Nadarivatu with 22.5°C on the 28th, Monasavu with 23°C on the 29th, Yasawa-I-Rara with 24.4°C on the 28th, Ono-I-Lau with 25.9°C on the 28th and Udu Point with 26.2°C on the 29th.

There were no new day-time temperature records established during the month.

B. Minimum Night-time Air Temperatures

Generally, *below normal* to *above normal* night-time temperatures were recorded at majority of the climate stations during the month. For the 22 stations that reported in, 4 recorded anomalies ≥ +0.5°C, 13 within ± 0.5°C, and 5 with anomalies ≤ -0.5°C.

The coolest nights on average were at Nadarivatu with 18.3°C, followed by Monasavu with 19.1°C, Lakeba with 21.5°C, Labasa Airfield with 21.8°C, Korolevu with 21.9°C, Vunisea and Vanuabalavu both with 22.1°C, and Matei Airfield with 22.3°C. Subsequently, on average, the warmest nights were observed at Rotuma with 25.6°C, Viwa island with 25.1°C, Udu Point with 25°C and Nabouwalu, Ono-I-Lau and Yasawa-I-Rara all with 24.6°C.

The lowest night-time temperature of 13.2°C was recorded at Nadarivatu on the 12th, followed by Monasavu on the 15th with 15.5°C, Lakeba and Korolevu both with 18.5°C on the 13th and Vanuabalavu and Labasa Airfield both with 18.7°C on the 30th and 13th respectively.

The warmest night-time temperatures were recorded at Nacocolevu with 29.2°C on the 9th, followed by Ono-I-Lau with 28.4°C on the 24th, Viwa island with 27.4°C on the 24th, Udu Point 27.2°C on the 25th and Laucala Bay with 26.7°C on the 21st.

Lakeba and Ono-I-Lau recorded their new highest average minimum temperatures of 33.6°C and 35.8°C, since records began in 1928 and 1943 respectively (Table 1).

TABLE 1. CLIMATE RECORDS ESTABLISHED IN DECEMBER 2024

Element	Station	Observed (record)	On	Rank	Previous (record)	Year	Records Began
Daily Maximum Temperature	Lakeba	33.6°C	21st	New High	33.5°C	1984	1928
Daily Maximum Temperature	Ono-I-Lau	35.8°C	21st	New High	34.7°C	2024	1943

Note: All comparisons in this summary are with respect to "Climatic Normals". This is defined to be the average climate condition over a 30-year period. Fiji uses 1991-2020 period as its "climatic normal" period.

TABLE 2. DAILY CLIMATE REPORTING SITES: SUMMARY FOR JANUARY 2025

	RAINFALL					AIR TEMPERATURES								SUNSHINE	
	TOTAL	*	RAIN DAYS	+	MAX. FALL	AVERAGE DAILY MAX.	#	MIN.	#	EXTREME MAX.	ON	MIN.	ON	TOTAL HRS	*
	MM	%			MM ON	C	C	C	C	C		C			
NADI AIRPORT	302.3	83	21		84 30	31.5	0.1	23.3	0.0	34.2	23	20.2	14	213	103
LAUCALA BAY	348.7	101	20		82 27	31.0	-0.2	24.5	-0.1	34.1	22	19.0	15	188	101
NACOCOLEVU RESEARC	377.7	140	27		69 8	30.6	-1.0	23.0	0.5	33.3	24	19.0	13	150	132
ROTUMA ISLAND (AWS)	241.5	67	26		30 7	31.5	0.3	25.6	0.6	33.1	6	23.4	15	162	104
VIWA ISLAND	307.5	117	21		95 2	32.4	0.4	25.1	0.0	34.2	24	23.5	9		
YASAWA-I-RARA	342.0	144	18		51 29	31.3	-0.2	24.6	0.1	35.1	26	22.3	29		
UDU POINT (AWS)	348.0	84	21		83 29	30.3	-0.5	25.0	0.3	31.9	20	22.7	30		
NABOUWALU	371.3	103	16		106 27	31.4	0.6	24.6	0.0	33.4	18	22.8	30		
LABASA AIRFIELD	434.5	107	24		145 28	31.8	-0.1	21.8	-0.7	34.4	23	18.7	13		
SAVUSAVU AIRFIELD	305.9	109	20		66 28	30.9	0.3	23.8	0.0	34.2	22	21.9	13		
KORONIVIA RESEARCH	483.4	134	20		94 8	31.1	0.4	23.6	0.6	33.5	20	20.0	12		
NAUSORI AIRPORT	482.6	136	21		112 8	31.0	0.4	23.4	0.0	33.5	20	19.8	12		
NAVUA (AWS)	452.5	122	22		109 7	32.3	2.1	22.8	-0.1	35.1	16	18.8	12		
MONASAVU HYDRO DAM	594.3	89	29		61 15	26.3	0.5	19.1	-0.1	30.0	24	15.5	15		
FSC LAUTOKA MILL	324.8	85	24		63 30	31.5	0.1	23.4	-0.3	33.8	25	20.3	11		
FSC RARAWAI MILL	508.4	106	18		174 30	U/S		U/S		U/S		U/S			
FSC PENANG MILL	381.4	91	23		92 30	31.5	0.4	23.8	-0.1	34.2	23	20.9	15		
MATEI AIRFIELD	392.8	115	19		146 28	30.5	0.3	22.3	-2.0	32.1	24	20.4	15		
VANUABALAVU	354.4	137	12		105 8	30.7	0.5	22.1	-2.3	32.9	19	18.7	30		
LAKEBA	256.0	97	11		71 8	30.7	0.2	21.5	-2.6	33.6	21	18.5	13		
VUNISEA	440.0	180	17		195 5	30.3	0.1	22.1	-1.9	32.3	21	20.0	8		
MATUKU	375.3	161	19		88 30	30.4	0.3	23.9	-0.3	32.6	23	22.1	31		
ONO-I-LAU	116.6	67	13		40 26	30.9	0.9	24.6	0.5	35.8	21	21.9	13		
YAQARA AWS	205.0	63	19		61 30	31.9		24.0		33.6	24	21.2	13		
LEVUKA AWS	109.5		17		25 5	U/S		U/S		U/S		U/S			
KEIYASI AWS	U/S					U/S		U/S		U/S		U/S			
LOMAIVUNA AWS	U/S					U/S		U/S		U/S		U/S			
NADARIVATU AWS	520.0		27		125 30	25.7		18.3		27.7	21	13.2	12		
RKS LODONI AWS	U/S					U/S		U/S		U/S		U/S			
MOMI AWS	182.5		17		50 8	30.9		23.8		33.2	21	20.9	14		
SIGATOKA AWS	244.0		16		81 8	31.0		22.7		34.0	17	19.1	13		
VATUREKUKA AWS	U/S					U/S		U/S		U/S		U/S			
KOROLEVU AWS	259.0		20		75 7	31.9		21.9		34.7	5	18.5	13		
WAINIKORO AWS	U/S					U/S		U/S		U/S		U/S			
SAQANI AWS	U/S					U/S		U/S		U/S		U/S			
SEAQAQA AWS	U/S					U/S		U/S		U/S		U/S			
DOBUILEVU TB3	355.0	86	25		78 30										
NASINU TB3	514.0		23		76 12										
TAVUA TB3	U/S														

	TEMPERATURE(C)			HUMIDITY	WIND
	MEAN	DRY (AVERAGE AT 9AM)	WET (AVERAGE AT 9AM)	RH% (AVERAGE AT 9AM)	VP (AVERAGE AT 9AM)	KT
NADI AIRPORT	27.4	28.3	25.1	77	28.8	5.8
LAUCALA BAY	27.7	28.9	25.9	79	29.8	6.6
NACOCOLEVU RESEARC	26.8	27.9	25.3	82	28.1	
ROTUMA (AWS)	28.6					
VIWA ISLAND	28.8	29.6	26.6	79	31.0	
YASAWA-I-RARA	27.9	28.5	26.6	87	29.1	
UDU POINT (AWS)	27.7					
NABOUWALU	28.0	29.1	25.9	77	30.1	
LABASA AIRFIELD	26.8	28.9	25.6	76	29.8	7.5
SAVUSAVU AIRFIELD	27.4	28.7	25.5	77	29.4	6.6
KORONIVIA RESEARCH	27.4	28.6	25.9	81	29.3	
NAUSORI AIRPORT	27.2	28.1	25.5	81	28.4	5.3
NAVUA (AWS)	27.6					
MONASAVU HYDRO DAM	22.7	23.3	22.9	97	21.4	
FSC LAUTOKA MILL	27.4	27.4	26.6	94	27.3	
FSC RARAWAI MILL	NA	29.1	25.9	78	30.1	
FSC PENANG MILL	27.7	28.3	25.6	81	28.8	
MATEI AIRFIELD	26.4	28.7	25.8	79	29.4	8.9
VANUABALAVU	26.4	28.7	25.4	77	29.4	
LAKEBA	26.1	28.5	25.2	77	29.1	
VUNISEA	26.2	26.5	23.3	77	25.9	
MATUKU	27.2	27.2	24.8	94	27.0	
ONO-I-LAU	27.7	28.9	25.2	75	29.8	

MEAN TEMPERATURE IS (MAX+MIN)/2; WIND IS MEAN SPEED AT 06,12,18,24 HOURS.
$:SOLAR RADIATION CALCULATED FROM SUNSHINE DURATION. # :DEPARTURE FROM LONG-TERM AVERAGES (1991-2020). + :NUMBER OF DAYS WITH 0.1 MM OR MORE RAIN. * :PERCENT OF LONG-TERM AVERAGES.
BLUE FONT: MISSING RECORDS OF LESS THAN OR EQUAL(≤) TO 5 DAYS. U/S: UNSERVICEABLE

Figure 2

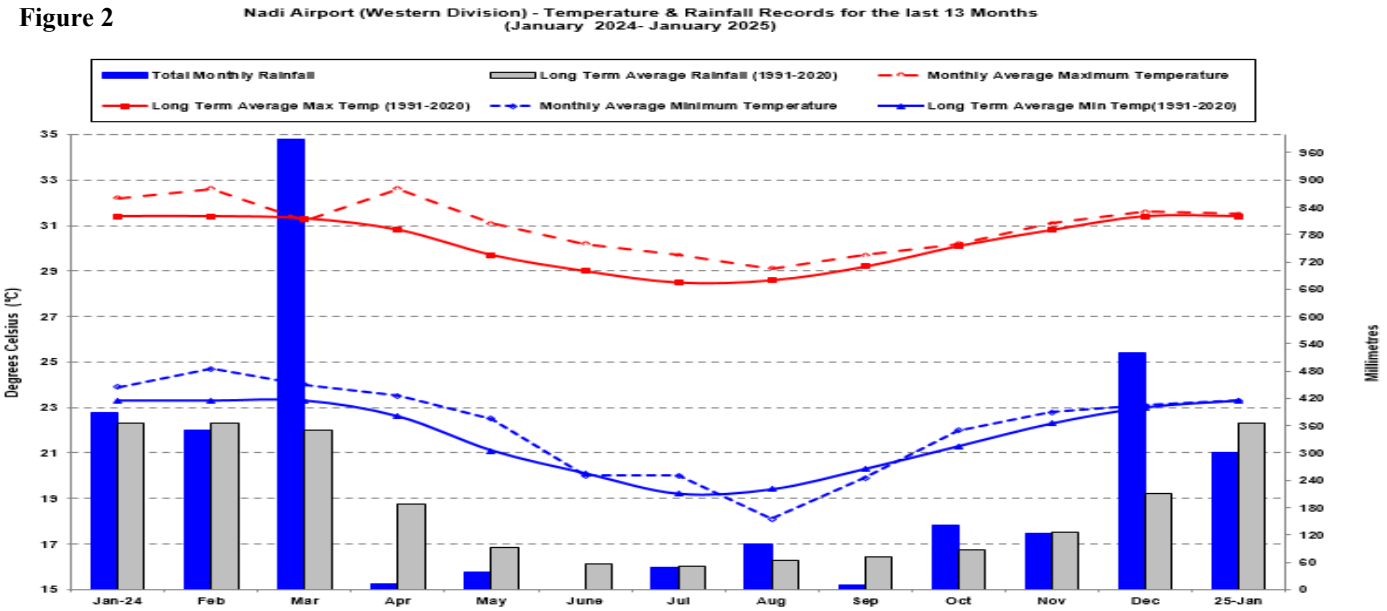


Figure 3

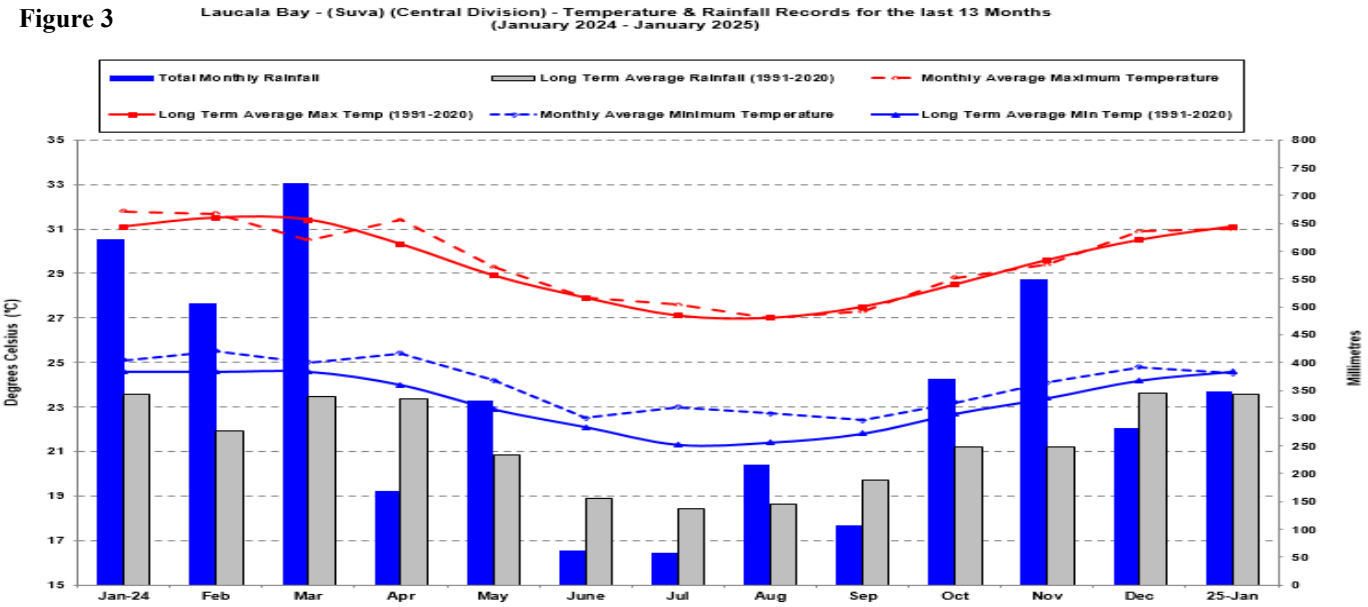


Figure 4

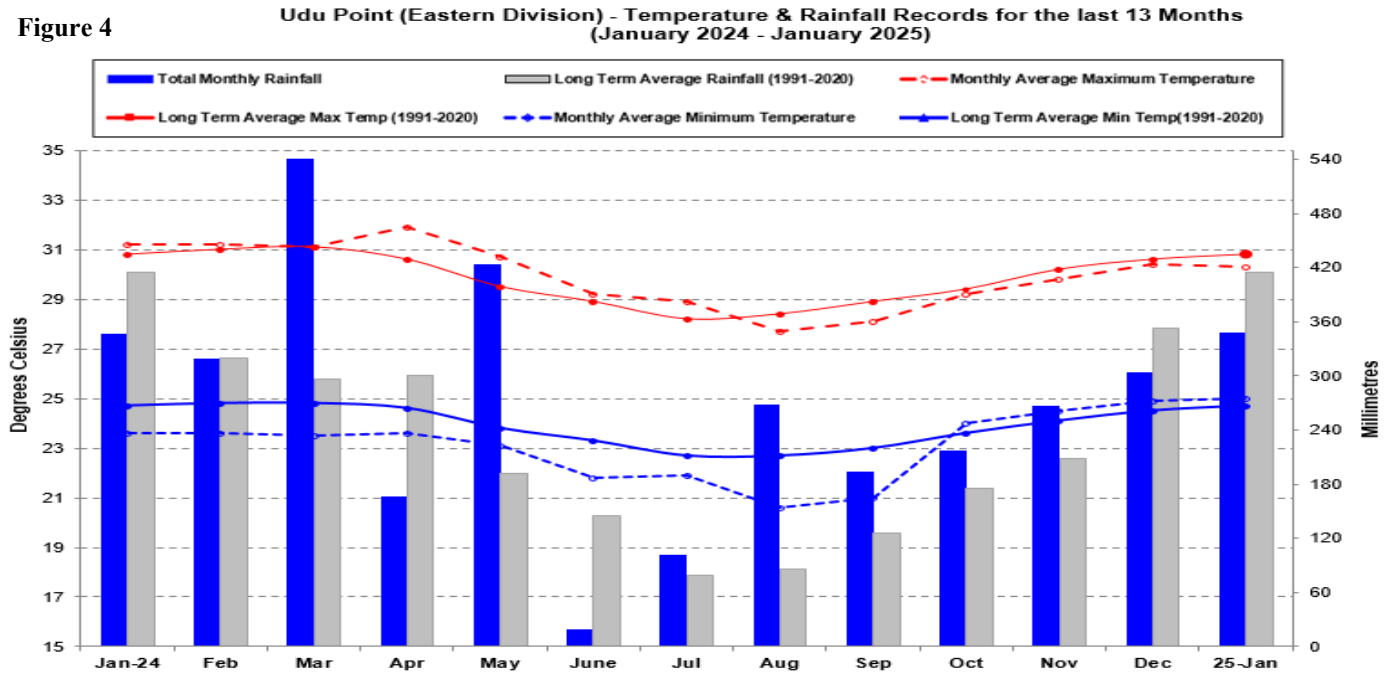
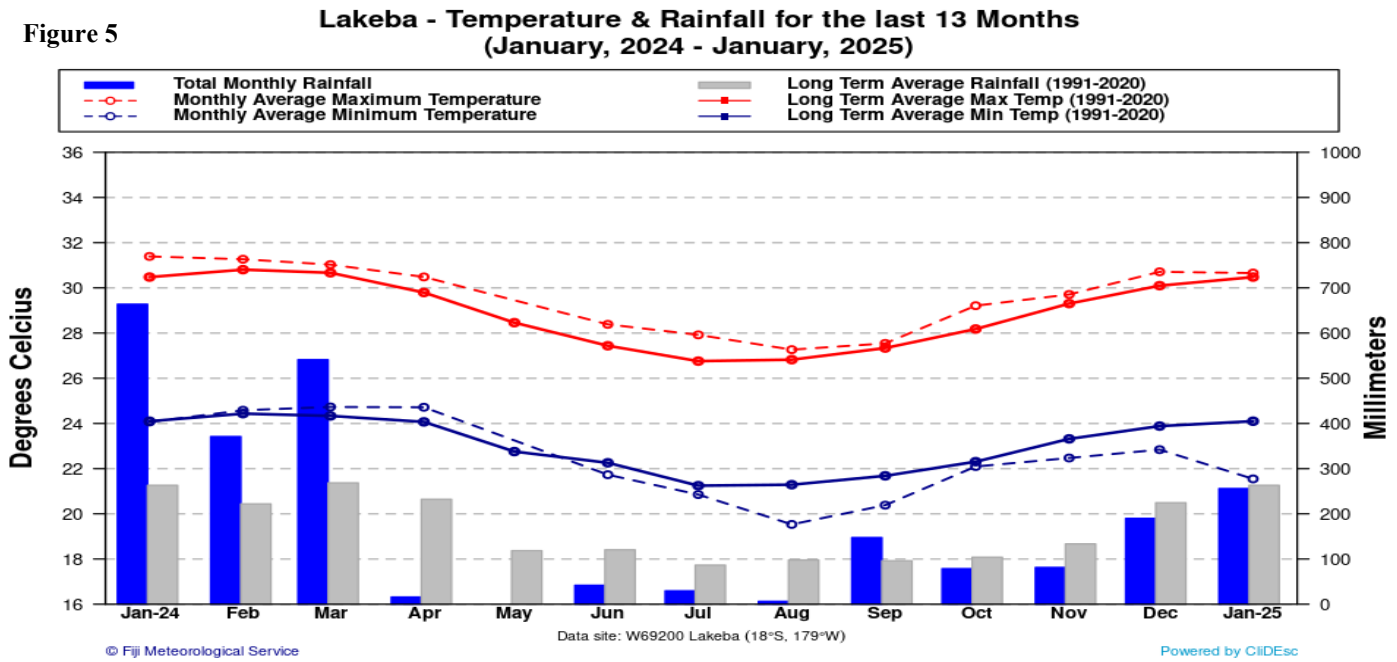


Figure 5



5. DAILY RAISED PAN EVAPORATION

Figure 6

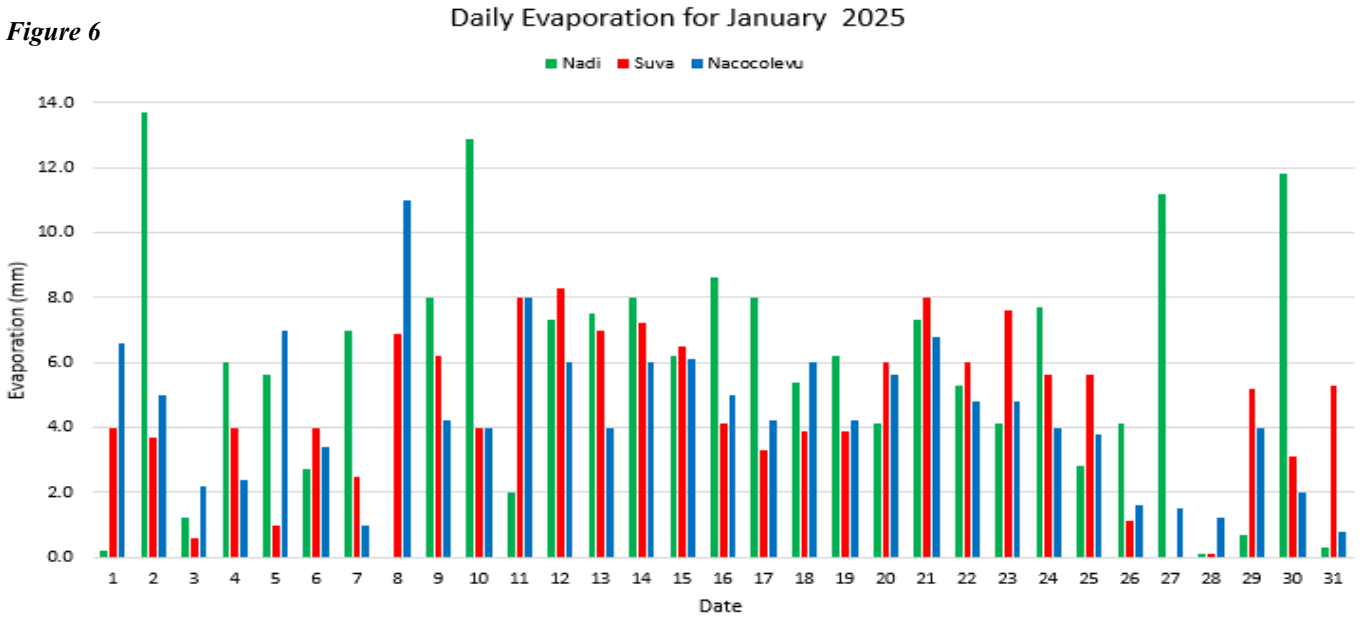


Figure 6: The total monthly raised pan evaporation at Nadi Airport, Laucala Bay (Suva) and Nacocolevu (Sigatoka) were 176.0mm, 151.0mm and 137.2mm, respectively. Nadi's highest daily evaporation was 13.7mm on the 2nd with Suva's highest daily evaporation of 8.3mm on the 12th, and Nacocolevu (Sigatoka) recorded its highest of 11.0mm on the 8th.

6. SOLAR RADIATION

The Nadi solar radiation instrument was unserviceable during the month of January 2025.

7. WIND SUMMARY

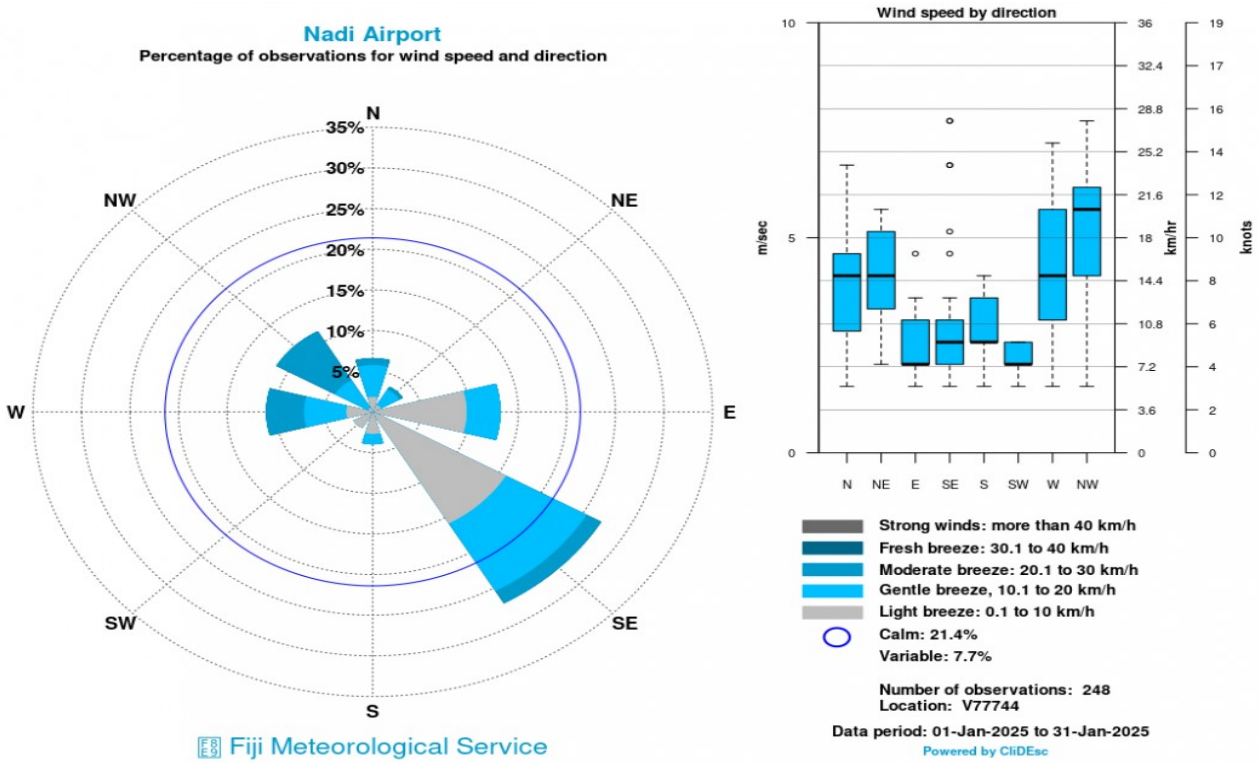


Figure 7a: Looking at Nadi's 3 hourly observations, southeasterly winds were most dominant during the month, followed by easterly and then northwesterly winds. Wind strength ranged from light to moderate breeze, while 21.4% observations accounted for calm winds.

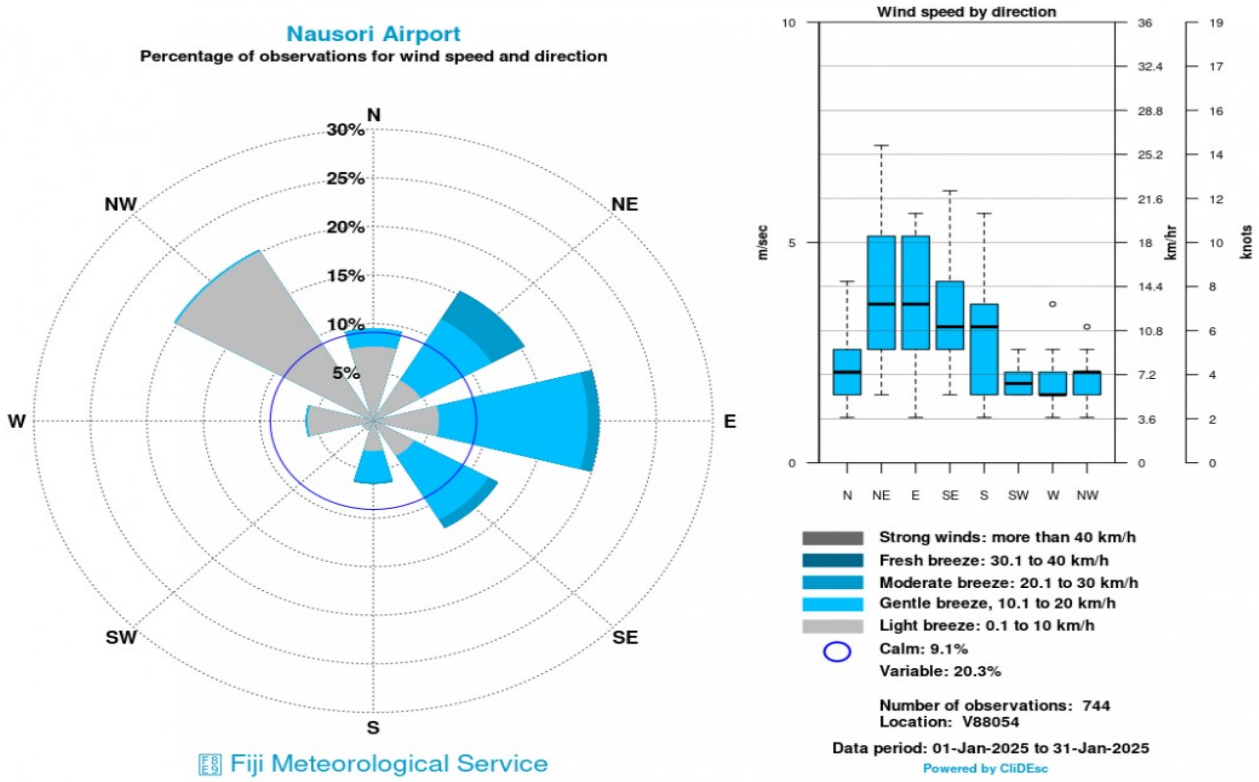


Figure 7b: For Nausori Airport's hourly wind observations, northwesterly winds were most dominant during the month, followed by easterly and then northeasterly winds. Wind strength ranged from light to moderate breeze, while 9.1% observations accounted for calm winds.

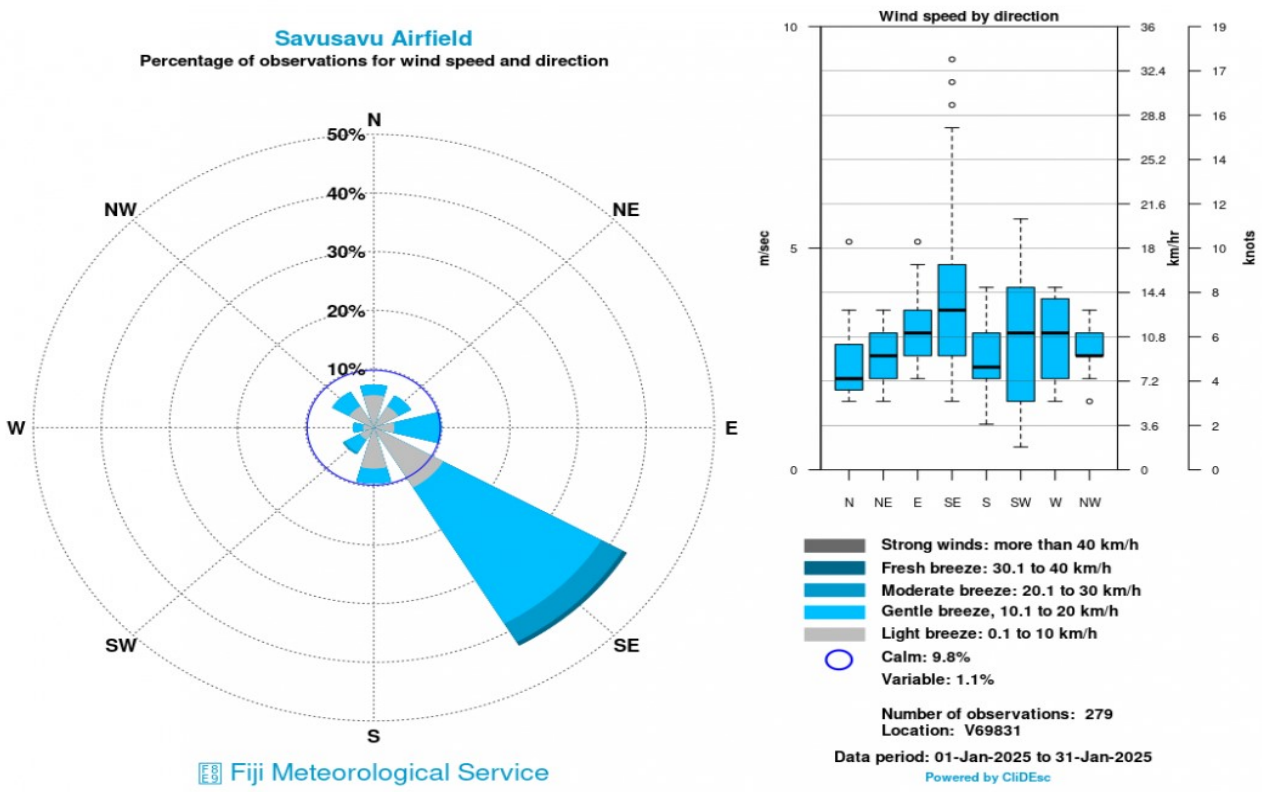


Figure 7c: For Savusavu Airfield's hourly observations (0800hrs to 1600hrs), southeasterly winds were most dominant during the month, followed by easterly and then southerly winds. Wind strength ranged from light to fresh breeze, with calm winds observed 9.8% of the time.

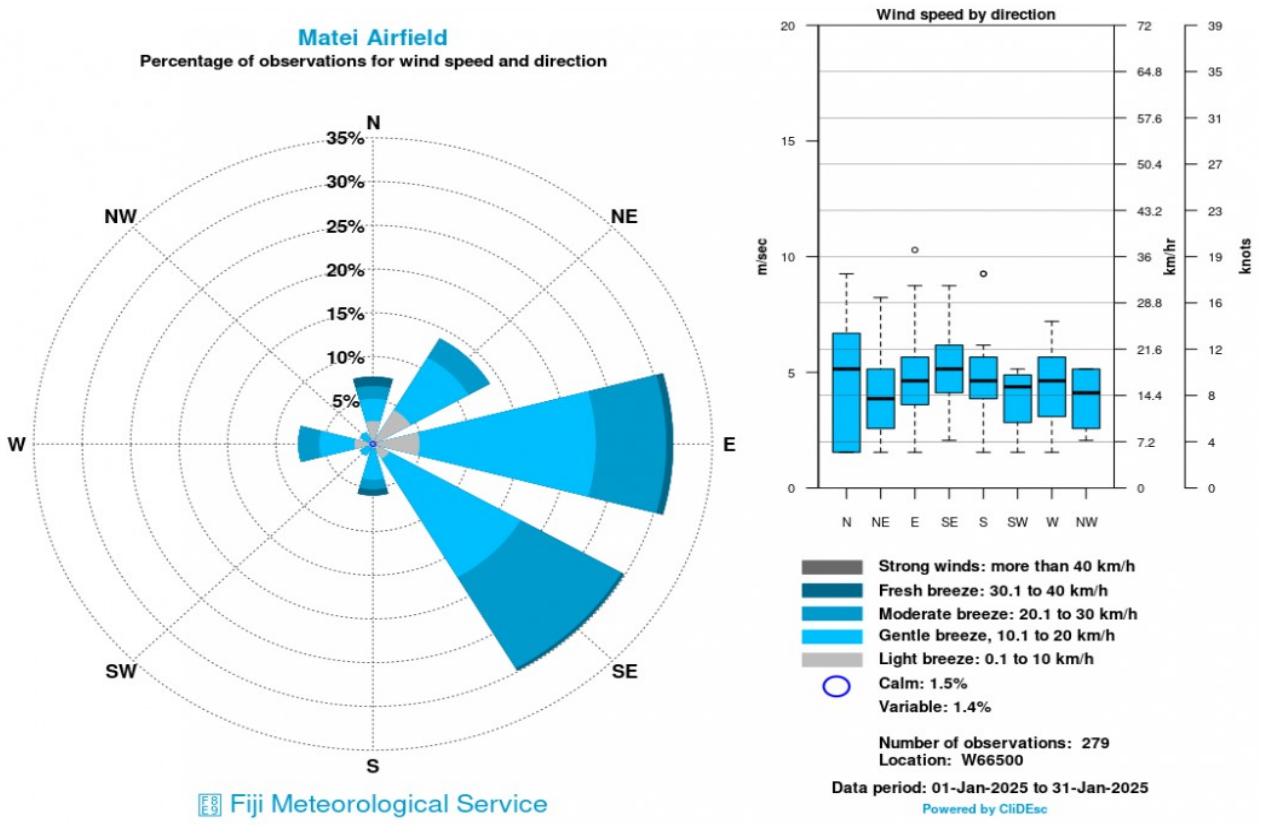


Figure 7d: For Matei Airfield's hourly wind observations (0800hrs to 1600hrs), easterly winds were dominant followed by southeasterly and then northeasterly winds. Wind strength ranged from light to fresh breeze, with calm winds observed 1.5% of the time.

8. SEA SURFACE TEMPERATURE (SST)

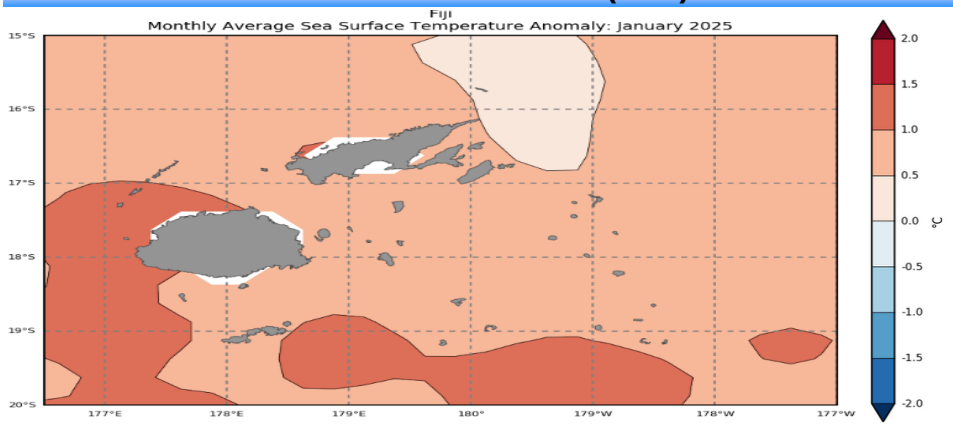


Figure 8:
Warmer than normal sea surface temperature anomalies were observed across most of the Fiji Waters, with anomalies 1.0-1.5°C observed west and south of Viti Levu.

Source: https://oceanportal.spc.int/portal/app.html#climate

9. CLOUD COVER

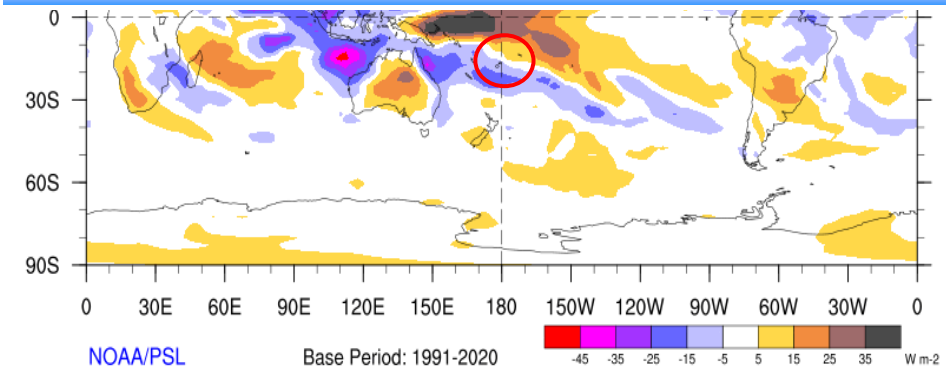


Figure 9:
Above normal cloud cover were present over the Fiji Group during January (*Fiji in red circle).*

Source: http://www.esrl.noaa.gov/psd/map/clim/olr.shtml

10. SEA LEVEL

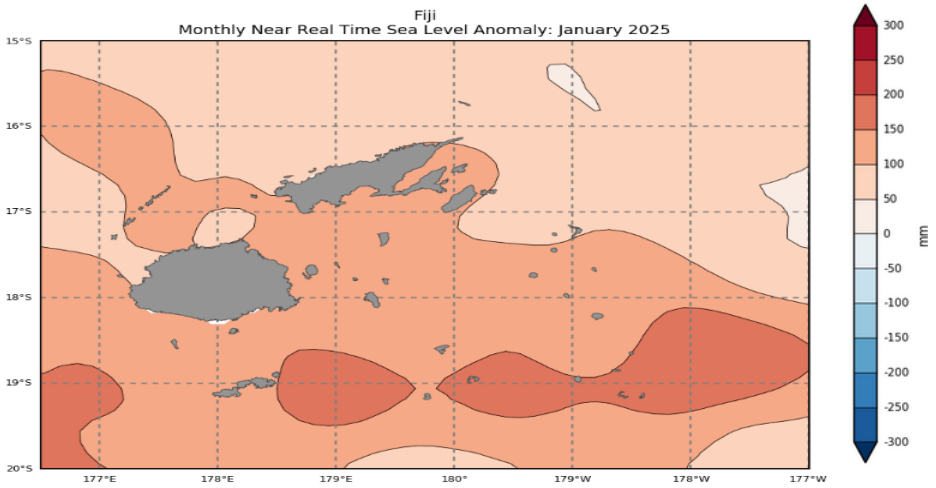


Figure 10:
Above normal sea level anomalies persisted across most of the Fiji Waters during January.

Source: https://oceanportal.spc.int/portal/app.html#sealevel

11. WIND ANOMALIES

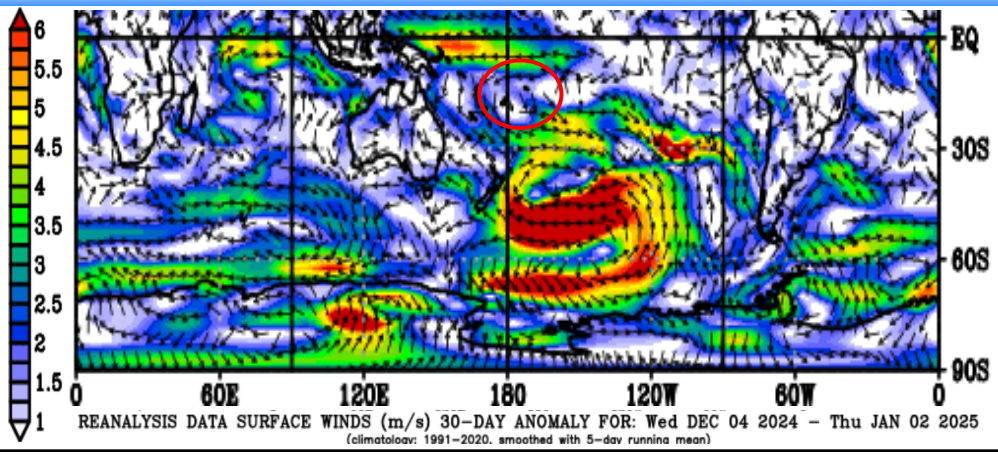


Figure 11:

North-easterly winds were observed over the Fiji Group during the month (base period: 1991-2020) (*Fiji in red circle*).

Source: https://www.esrl.noaa.gov/psd/map/images/rnl/sfcwnd_30b.rnl.html

12. FLASH FLOODING: 7th to 9th and 31st.

Continuous torrential heavy rainfall led to flash floods at low-level crossings and settlements in areas across the Western and Central Division, including the flooding of Ba and Sigatoka towns from the 7th to 9th. Flash flooding led to the closure of several low-level crossings and essential businesses. Other instances of heavy rain led to surface flooding in parts of the Western and Northern Division between the 23rd and 28th. An embedded trough of low pressure affected the group from the 29th to the end of the month resulting in flash flooding of Ba town and parts of Sabeto, Nadi on the 31st.

Figure 12a: Flooding in Qauia settlement, Lami on the 7th. Source: FBC News.

Figure 12b: Flooding of Viwawa Rd, Navua on the 7th. Source: Fiji Roads Authority

Figure 12c: Flooding in parts of Sigatoka town on the 8th. Source: FBC News.

Figure 12d: Flooded part of Sigatoka town on the on the 8th. Source: FBC News.

Figure 12e: Surface flooding in Namotomoto village, Nadi on the 23rd. Source: Mirchi FM.

Figure 12f: Surface flooding in parts of Labasa on the 28th. Source: Mirchi FM.

Figure 12g: Surface flooding in Namoli Rd, Labasa on the 28th. Source: Fiji Roads Authority.

Figure 12h: Flooding of Ba town on the 31st. Source: FijiVillage

Figure 12i: Flooding of parts of Sabeto, Nadi on the 31st. Source: Fiji Roads Authority.

EXPLANATORY NOTES

Anomalies - denote the departure of an element (rainfall, temperature, sea surface temperature, cloud cover, sea level and wind) from its long-period average value for a particular location.

Trough - an elongated area of low atmospheric pressure that is associated with a cyclone, or low. Sometimes referred to as a 'trough of low pressure'.

Rain - Liquid precipitation in the form of water droplets. Rain falls from dense, continuous clouds, called 'stratiform' clouds.

Shower - precipitation from individual clouds, often characterised by the sudden beginning or ending. Showers fall from 'lumpy looking', 'cauliflower' clouds, called 'cumuloform' clouds.

Trade Winds - the trade winds are the east to southeasterly winds (in the Southern Hemisphere) which affect tropical and subtropical regions.

High pressure systems or anticyclones are atmospheric circulations that rotate anti-clockwise in the Southern Hemisphere. Anticyclones are areas of higher pressure and are generally associated with lighter winds and fine and settled conditions.

Low pressure systems or mid-latitude cyclones are atmospheric circulations that rotate clockwise in the Southern Hemisphere (anti-clockwise in the Northern Hemisphere). Cyclones are areas of lower pressure and generally associated with stronger winds, unsettled conditions, cloudiness and rainfall.

Sea Surface Temperature (SST) - the temperature of the water's surface. It is usually measured using buoys, ship data, and satellites.